



Linux & DSP based

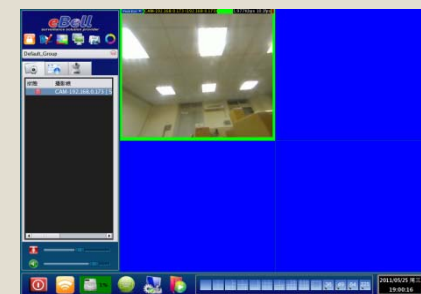
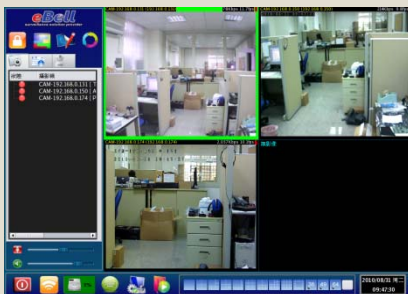
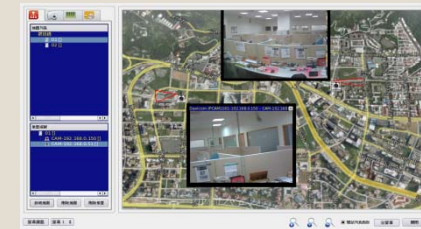
CCTV Integration & Analytics
solution provider



CMS Outlines



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- Embedded Linux system, without Windows systems concerns over computer virus and Hacker.
- Embedded Linux system, dedicated OS stored in IDE or SATA Flash card.
- OS (in Flash card) booting without HDD, exempt from Power down damage.
- No Windows issues : license fees, software download, system initiation, version upgrade and its related compatibility issues.
- Linux OS : with above advantages, emerging as Mainstream for surveillance.

eBell System H/W : Advanced platform

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- 4U Server : when recording function not required,
- 4U Server System with built-in Watch dog, to monitor and maintain system in good operation.
- Re-build System under default setting after System Power restored.
- If recording function needed, HD or Inner RAID are options.

Storage Server RAID : when long recording time required,

- System with built-in Watch dog, and re-build features.
- Successfully accomplished the integration of Linux CMS, Storage Server, and RAID controller, in one system.
- Redundant and hot swap 700W power supply.

eBell HDD H/W : Data & Capacity assured platform

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- When CMS has recording function
- Auto balancing features : to share all recording loading among multiple HDDs.
- HDD self-error-detection feature.
- Support Inner RAID 、 DAS RAID, iSCSI RAID for data protection and long recording requirement.
- After HDD hot swapped, RAID NVR system will rebuild RAID, and send notice mail out while Recording, Playback function not affected at all.
- May expand to external RAID / DAS.
- Providing HDD S.M.A.R.T information.

eBell Networking : Easy connecting , Easy management

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- Video streaming data and Control data of CMS both may go through Port 80, and other pre-defined Port No. for extra systems. Enabling multiple CMS systems under IP sharing can be accessed through Internet.
- Support UPnP Internet Gateway Device, and Port forwarding automation for Router.
- Whenever Floating IP address renewed, SMTP will send new IP address link to pre-set mail box. (By clicking the IP address link in mail will enable the connection to CMS automatically.)
- May manage multiple NVRs and IP cam in remote.
- Settings items for Upload streaming : Bandwidth, No. of cameras, Bit rate (kbps).

eBell Software : Integrations & Customizations

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- Long development and long interactions with market demand, makes eBell CMS advanced, full featured, user friendly, and reliable.
- Firmware development 100 % in house, can real time respond to new market or new technology for customization.
- Integration covering : New H/W platform and Instruments, Meters, Sensors, for FA, BA, Hospitals, Prisons, Banks, Public utilities,...
- Firmware upgrade through Internet and USB. Error-proof scheme built-in CMS to assure successful upgrade.

eBell S/W spec : Live monitoring

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- Each camera can be mapped to different groupings.
- Support Sequencing among Groupings or in a certain Grouping.
- Video out : system built-in VGA and DVI each, More VGA and DVI out are optional.
- Monitor resolution : 1280x768 and above.
- FPS (frame per second) and Bit rate information displayed on video.
- ROI (Region Of Interest) can be defined within Channel video and can be assigned as new Channel.
- Support multiple Monitors (for Live, Playback, Groupings, e-Map.)

- Multi-layer e-Map, video can be displayed on e-Map.
- IP cam and Sensor icons can be illustrated on e-Map.
- View angle of each camera can be illustrated on e-Map.
- Event or Alarm triggered, video will pop up on e-Map.



When CMS has recording function :

- Continuous, Scheduling, Weighted, Motion detection, Alarm, Blending (different Recording Modes).
- Pre-recording 5 ~ 30, Post-recording 10 ~ 120 sec for motion detection recording.
- Multiple motion detection area, and sensibility degree in 100-grade.
- Continuous recording, File length : 5 minutes.
- Channel in recording process may be set not displayed.
- Files can be set not to be over-written.

eBell S/W spec : Remote back up

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When CMS has recording function :

- Automatic resuming Back-up function after Power/Internet restored to complete the desired Back-up process.
- Support remote back-up to multiple Systems (NAS, RAID) at different sites.
- Specific camera can be assigned to specific Back-up Server.
- Support Specific files only (ex. Alarm triggered files) Back-up.

- Search CMS or NVR connected through Files distribution diagram or Event list to locate files of interest.
- Support sec/min/hr pictures review, clicking picture of interest to start playback or export.
- After defining certain area as new Motion detection area in picture, and clicking **Smart Search** key to search pictures of interest in just seconds.
- Support pre-view of Pictures obtained from Smart Search.
- Clicking Picture of interest to start Playback function.

- Multi-channel playback in time synchronized or not synchronized mode.
- Single-channel playback in multiple time intervals.
- Digital zoom for both still and motion pictures.
- Video and audio synchronized playback.
- Speed : -8, -4, -2, -1, -1/2, 0, 1/4, 1/2, 1, 2, 4, 8, 16.



eBell S/W spec : Export / Import

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- Support exporting single or multiple standard AVI files through USB 2.0 port to USB devices through Playback / Search main page.
- Support exporting single or multiple snap shot pictures to USB devices.
- Files in Standard MPEG-4 / H.264 AVI format, not requiring file Trans-coding (time). Less than 450 sec to download every 1 GB file to USB devices.
- Flexible time interval setting, no time limit on Start-End setting. (5 to 20 minutes limit is common in the market)
- Digital signature encrypted in Export files.
- System settings can be exported or imported.

eBell S/W spec : Event management

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- Event types : HDD error, Video loss, Alarm sensor, Motion detection, Scene change, POS events.
- Event triggered may enable CMS and NVR to start Recording and initiate following options : e-mail 、 Digital i/o device 、 Siren 、 Pop-up to full size, Pop-up on e-Map, Remote Back-up.
- Multiple events at the same time will enable pop-ups in multi-division display .
- Provide Event list and its Export.
- Clicking the specific Event in Search list to get Pre-view pictures. And clicking Pictures to start Playback.
- System log : User name, Log in/out time, System status, System events, GUI setting history, IP address of log-in user, Video loss, POS status.

- Support Digital I/O (Sensors & Alarm) devices.
- Each Sensor or Alarm device may be linked to one or multiple Channels.
- Each Channel may be linked to one or multiple sensors.
- Each Channel may be linked to one or multiple Alarm devices.
- Support Access control and POS system.
- Support Laser distance meter and Doppler sensor.

eBell Software spec : Audio 2-way

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- If PC (Java Client), CMS (or NVR), IP cam are all equipped with Audio devices (Mic and Speaker), the following 2-way routes are doable.
- PC (Java Client) ↔ CMS
CMS ↔ NVR ↔ IP cam
- PC (Java Client) ↔ CMS ↔ NVR ↔ IP cam

- Remote control turntable and functions of Speed Dome.
- GUI Panel for PTZ control. Or by clicking a specific point in Video to enable PTZ to move accordingly.
- Pre-set cruising points, and duration of each point.
- Digital I/O devices once triggered will guide PTZ to Pre-set point. (Alarm to Preset)
- Support RS-485 and PTZ control protocol of various IP cameras.

eBell S/W spec : Web functions - 1

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- Remote PC, internet connected, may access CMS or NVR system through eBell AP or IE (Java installed), without download other software.
- Not requiring Web authority, no extra Active-X risk.
- Remote adding, search, delete of IP cam to NVR.
- Remote access IP cam status information through NVR.
- Support IP cam Group editing, and Multiple Monitors (Real time view, Playback, Grouping, e-Map).

eBell S/W spec : Web functions - 2

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- NVR admin may pre-set internet time limit for each user.
- Firmware upgrade through USB, with built-in error proof scheme (in CMS) to ensure successful upgrade.
- Access RAID and HDD status information (total HDD capacity and recording time calculation under status quo).
- Remote download AVI files and snapshot.
- Support remote management of e-Map (Di/o setting, event setting, Alarm setting,..)

- Support standard 3GPP Streaming protocol, MPEG4 / AMR.
- Mobile set having Mpeg-4, and Standard 3GPP function. can remote view pictures in NVR without download any extra software to mobile set.

